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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,939	02/10/2004	Paul T. Spivey	2003-0705.02	3167

21972 7590 06/15/2006

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EXAMINER

SOLOMON, LISA

ART UNIT PAPER NUMBER

2861

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/775,939

Applicant(s)

SPIVEY ET AL.

Examiner

Lisa M. Solomon

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 4/18/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-29 is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-18, 20, 21 and 23-25 is/are rejected.
- 7) ☐ Claim(s) 12, 19 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid (5,414,454).

3. In regards to claim 1, Reid (454') discloses an inkjet printhead having a body (12), comprising: a heater chip attached to said body (12); a nozzle plate (16) on said heater chip, said nozzle plate having a periphery and plurality of nozzle holes (17); and an encapsulant bead (20) on said nozzle plate having a leading edge in a direction away from said periphery, said leading edge being less than about 500 microns from a closest one of said plurality of nozzle holes [Column 1 lines 17-32; 39-41, See Fig. 3].

4. Reid (454') discloses the claimed invention except for the leading edge distance of the encapsulant bead being less than about 500 microns from the closet nozzle hole. It would have been obvious to one of ordinary skill at the time the invention was made to optimize the leading edge distances of the encapsulant bead being less than about 500 microns, since it has been held that where the discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

5. In regards to claims 2-3, Reid (454') disclose the claimed invention except for the leading edge distance of the encapsulant bead in a range from about 100 to about 400

microns and in a range from about 200 to about 300 microns. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the leading edge distance of the encapsulant bead in the ranges of about 100 to about 400 and about 200 to about 300 microns, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

6. In regards to claims 4-5, Reid (454') discloses the inkjet printhead wherein said encapsulant bead (20) overlies a lead beam and a TAB circuit (18) [Column 1 lines 26-36].

7. In regards to claim 6, Reid (454') discloses the inkjet printhead further including a tape (40) on said nozzle plate (16), said tape (40) overlying each of said plurality of nozzle holes (17), said tape not touching said encapsulant bead [Column 2 lines 49-54].

8. Claims 7-11 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid (454') in view of Farr et al. (6,634,732).

9. In regards to claim 7, Reid (454') disclose an inkjet printhead having a body (32), comprising: a heater chip on said body (12); a nozzle plate (16) on said heater chip, said nozzle plate (16) having a periphery and plurality of nozzle holes (17); and an encapsulant bead (20) on said nozzle plate (16) and overlying said periphery, said encapsulant bead (20) having a leading edge in a direction away from said periphery and toward said plurality of nozzle holes, said leading edge being less than about 400 microns from a closest one of said plurality of nozzle holes [Column 1 lines 17-32; 39-41, See Fig. 3].

10. Reid (454') discloses the claimed invention except for the distance the leading edge of the encapsulant bead being less than about 400 microns away from the closest nozzle hole. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the leading edge distance of the encapsulating bead to be less than about 400 microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

11. Reid (454') does not expressly disclose an encapsulant bead on nozzle plate overlying the periphery.

12. Farr (732') teaches in one embodiment that an encapsulant bead is dispensed along the periphery of the nozzle plate [Column 5 lines 9-15].

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to be motivated to modify Reid (454') to accommodate the embodiment taught by Farr (732') for the purposes of protecting the electrical components of the TAB circuit (18).

14. In regards to claim 8, Reid (454') discloses the inkjet printhead further including a tape (40) covering each of said plurality of nozzle holes (17), said tape (40) not touching said encapsulant bead (20) [Column 2 lines 49-54].

15. In regards to claim 9, Reid (454') discloses the tape (40) covering the nozzle holes (17).

16. Reid (454') disclose the claimed invention except an edge of said tape is more than about 50 microns from any of said plurality of nozzle holes. It would have been

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obvious to one of ordinary skill in the art at the time invention was made to optimize the distance between the edge of the tape and the nozzle holes to be more than about 50 microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

17. In regards to claim 10, Reid (454') discloses the claimed invention except for the leading edge distance of the encapsulant bead is in a range from about 100 to about 350 microns from said edge of said tape. It would have been obvious one of ordinary skill in the art at the time the invention was made to optimize the leading edge distance of the encapsulant bead to be in a range from about 100 to about 350 microns from the edge of tape, since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

18. In regards to claim 11, Reid (454') discloses the inkjet printhead with a tape over the nozzle holes. Reid (454') does not disclose the inkjet printhead wherein said tape is a two layer tape having poly vinyl chloride and acrylic.

19. Farr (732') teaches conventional tapes constructed from a base film made from polyvinyl chloride with an acrylate based adhesive layer [Column 2 lines 22-28].

20. It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the tape disclosed in Reid (454') in two layers from the materials taught by Farr (732') for the purposes of a stronger tape.

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21. In regards to claim 13, Reid (454') discloses the tape being attached to the nozzle plate of the printhead. Reid (454') does not disclose the tape being attached to the body.

22. Farr (732') teaches the tape attached to the body [Column 5 lines 19-24].

23. It would have been obvious to one of ordinary skill at the time the invention was made to be motivated to attach the tape disclosed in Reid (454') as taught by Farr (732') for the purposes of creating a stronger seal.

24. In regards to claim 14, Reid (454') discloses the claimed invention except for the leading edge is in a range from about 200 to about 300 microns from said closest one of said plurality of nozzle holes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the distance of the leading edge of the encapsulant bead to be in a range from about 200 to 300 microns, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

25. Claims 15-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid (5,414,454) in view of Farr (6,634,732).

26. In regards to claim 15, Reid (454') discloses an inkjet printhead having a body (12), comprising: a heater chip on said body (12); a nozzle plate (16) on said heater chip, said nozzle plate (16) having a plurality of nozzle holes (17); an encapsulant bead (20) on said nozzle plate (16); and a tape (40) on said nozzle plate (16) covering each

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of said plurality of nozzle holes (17), said tape (40) not touching said encapsulant bead [Column 1 lines 17-32; 39-41, See Fig. 3].

27. In regards to claim 16, Reid (454') discloses the claimed invention except for the leading edge distance of the encapsulant bead is less than about 500 microns from said any of said plurality of nozzle holes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the leading edge distance of the encapsulant bead to be less than about 500 microns from the nozzle holes, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215(CCPA 1980).

28. In regards to claim 17, Reid (454') discloses the claimed invention except for an edge of said tape is more than about 50 microns from a closest one of said plurality of nozzle holes. It would have been obvious to one of ordinary skill in the art at the time invention was made to optimize the distance between the edge of the tape and the closest one of the nozzle holes to be more than about 50 microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215(CCPA 1980).

29. In regards to claim 18, Reid (454') discloses the claimed invention except for the encapsulant bead has a leading edge in a range from about 100 to about 350 microns from an edge of said tape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the leading edge distance of the encapsulant bead to be in a range from about 100 to about 350 microns from an edge of tape, since it has been held that where the general conditions of a claim are

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disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

30. In regards to claim 20, Reid (454') discloses the tape being attached to the nozzle plate of the printhead. Reid (454') does not disclose the tape being attached to the body.

31. Farr (732') teaches the tape attached to the body [Column 5 lines 19-24].

32. It would have been obvious to one of ordinary skill at the time the invention was made to be motivated to attach the tape disclosed in Reid (454') as taught by Farr (732') for the purposes of creating a stronger seal.

33. Claims 21, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid (5,414,454) in view of Farr (6,634,732).

34. In regards to claim 21, Reid discloses an inkjet printhead having a body (12), comprising: a heater chip on said body (12); a nozzle plate (16) on said heater chip, said nozzle plate (16) having a periphery and plurality of nozzle holes (17); an encapsulant bead (20) on said nozzle plate (16) and overlying said periphery, said encapsulant bead (20) having a leading edge in a direction away from said periphery and toward said plurality of nozzle holes (17), said leading edge being less than about 400 microns in a distance perpendicular to said periphery from any of said plurality of nozzle holes; and a tape (40) on said body (12) and said nozzle plate (16) covering each of said plurality of nozzle holes (17), said tape not touching said encapsulant bead (20) [Column 1 lines 17-32;39-41, Column 2 lines 49-54].

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35. Reid (454') discloses the claimed invention except for the leading edge distance of the encapsulant bead being less than about 400 microns in a distance from any of the nozzles holes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the leading edge distance of the encapsulant bead to be less than about 400 microns in a distance from any of the nozzles holes, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F .2d 272, 205 USPQ 215 (CCPA 1980).

36. Reid (454') does not expressly disclose an encapsulant bead on nozzle plate overlying the periphery.

37. Farr (732') teaches in one embodiment that an encapsulant bead dispensed along the periphery of the nozzle plate [Column 5 lines 9-15].

38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to be motivated to modify Reid (454') to accommodate the embodiment taught by Farr (732') for the purposes of protecting the electrical components of the TAB circuit.

39. In regards to claim 23, Reid (454') discloses the inkjet printhead wherein said encapsulant bead has an irregular boundary relative to said periphery [See Fig. 4].

40. In regards to claim 24, Reid (454') discloses the claimed invention except for the leading edge of the encapsulant bead is in a range from about 100 to about 300 microns from said any of said plurality of nozzle holes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the

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distance of the leading edge from the nozzle holes, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

41. In regards to claim 25, Reid (454') discloses the claimed invention except for the leading edge of the encapsulant bead is in a range from about 200 to about 300 microns from said any of said plurality of nozzle holes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the distance of the leading edge from the nozzle since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Allowable Subject Matter

42. Claim 12, 19, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

43. Claims 26-29 are allowed.

44. The following is a statement of reasons for the indication of allowable subject matter:

45. In regards to Claims 12, 22, the prior art does not disclose or suggest the claimed "tape has a narrow width portion shorter than a width of said nozzle plate" in combination with the remaining claim limitations.

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46. In regards to claims 26-29, the prior art does not disclose or suggest the claimed "tape has a narrow width portion shorter than a width of said nozzle plate" in combination with the remaining claim limitations.

Response to Arguments

47. Applicant's arguments filed 4/18/2006 have been fully considered but they are not persuasive.

48. In regards to applicant's arguments concerning those claims that recite the limitation "said tape not touching said encapsulant bead" the rejection in the previous office action is upheld.

49. The claims recite, " a tape on said nozzle plate, said tape overlying each of said plurality of nozzle holes, said tape not touching said encapsulant bead". The claims state that the tape on the nozzle plate is not touching the encapsulant bead. The claims do not specify that the tape as a whole is not touching the encapsulant bead.

50. Contrary, to applicant's arguments Reid (5,414,454) does still read on the claim. Figure 4 shows this best in that the tape that is on the nozzle plate is not touching the encapsulant bead.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Solomon whose telephone number is (571) 272-1701. The examiner can normally be reached on 8:00 am - 4:30 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Lisa M Solomon
Patent Examiner
6/01/2006



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06/28/06